Preface

Classical statistical theory – hypothesis testing, estimation, and the design of experiments and sample surveys – is mainly the creation of two men: R. A. Fisher (1890–1962) and J. Neyman (1894–1981). Their contributions sometimes complemented each other, sometimes occurred in parallel, and, particularly at later stages, often were in strong opposition. The two men would not be pleased to see their names linked in this way, since throughout most of their working lives they detested each other. Nevertheless, they worked on the same problems, and through their combined efforts created a new discipline.

Fisher's collected papers have been published in five volumes, in which the ones excluding Genetics are numbered 1–291. The complete bibliography, including all his books, and pdf files of all papers are now publicly available at http://digital.library.adelaide.edu.au/coll/special/fisher. The list of books and the numbered statistical bibliography are included as an Appendix in the present book. All Fisher references in the Appendix will be cited by date and will include the bibliography number in square brackets if necessary for clarity.

Even more influential than the papers were Fisher's two great statistical books. The first, "Statistical Methods for Research Workers" (SMRW), was published in 1925, with new editions appearing every few years up to the fourteenth edition, which was published posthumously in 1973. This was followed in 1935 by the "The Design of Experiments" (DOE), which went through eight editions, the last dated 1966.

It is these two books that established Fisher as the creator of a new statistical methodology, and accordingly we shall here present his work largely through a detailed consideration of these volumes.

Neyman's contributions to this enterprise were contained principally in five papers published between 1928 and 1937, three of them jointly with Egon Pearson. Neyman too provided a summary statement, his mimeographed "Lectures and Conferences on Mathematical Statistics" of 1938, later expanded into a book (1952). However, they did not have the impact of Fisher's books, and in this case we shall instead study Neyman's original papers. Biographies have been written of both men: Fisher's by his daughter Joan Fisher Box, "R. A. Fisher—the Life of a

Scientist" (1978), and Neyman's ("Neyman—from Life" (1982)) by Constance Reid, who had previously published biographies of the mathematicians Hilbert and Courant. We shall here focus nearly exclusively on the work, but shall provide a chronology of some of the relevant life events as a framework in the next section.

Before proceeding, I should perhaps explain my own relation to, and involvement with, the work of Neyman and Pearson. In 1942, I became a student of Neyman, and his teaching of course reflected his own point of view. Fisher's name was hardly ever mentioned. But neither did Neyman point out that most of what he was presenting was his own work.

I got to know about this fact only when in 1977 Constance Reid asked me to read the Neyman-Pearson correspondence and to summarize it for her, since she had no background in statistics.

Later, I became interested in the general recent history of statistics, and in this context began to acquaint myself with Fisher's writings. It did not take me long to become aware of his dominating influence and to become an admirer of his genius. I gradually came to realize that these two men, Fisher and Neyman, so different in background, personality and approach, and so antagonistic to each other in person, between them were largely responsible for creating the field of classical statistics. The present account is the result of this realization.

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http://www.springer.com/978-1-4419-9499-8

Fisher, Neyman, and the Creation of Classical Statistics
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2011, VIII, 115 p. 8 illus., Softcover
ISBN: 978-1-4419-9499-8